**Subject: meeting report draft**
**Date:** Fri, 05 Feb 1999 11:09:03 -0700
**From:** Ken Burnham <kenb@lamar.ColoState.EDU>
**To:** timg@ucsd.edu

Tim, I took the report home and read it and found out that I was still wrong in thinking I had it all. I had looked at page numbers assigned by the FAX machines rather than actual page numbers on the document. Seems I have page 4 except for several lines at the bottom. Then I am missing document pages 5 and 6. I have document pages 7 to 13.

Also, here are some comments:

Re page 12, it would be best to show me as US Geological Suvey, or as Colorado Cooperative Fish and Wildlife Research Unit (USGS-BRD).

Our Unit is at CSU and fully integrated into the campus (via the Fishery and Wildlife Biology Dept.). Indeed I mostly act like a graduate faculty here. But I am a Fed. under USGS. BRD: Biological Resources Division. USGS has been getting pissed at us if we do not make it clear we work for USGS, not our host university.

Page 3, near bootom

"Concern was expressed over ... " I agree buit would go further and emphasixe that quite a bit of concern was expressed, just to make the point that this is a big deal. My own thoughts on it changed during and after the meeting. Initially I thought of first estimating abundance based on the data sets of identified and unidentified. Now (and before the meeting end) I think that is theoretically not a sensible thing to do.
It seems better to not split the data by identified or not (a process that occurs after detection - thought school size measurement issues also arise as regards identified or not), but rather to estimate a meaningful total abundance and then worry about prorating.

Page 7, 1/3 down. This section is about the outer stratum. I never was really concerned about any further stratification of the core stratum. The word "core" in the sentence that starts as "Burnham ... " should be "outer." It is the outer stratum that surely has substantial variation (outward from the core/outer boundary) in density (a trend from relatively high to low density, outward from the core stratum. This matter does not bias D-hat (if the design is good - which it is), but rather it inflates the variance of encounter rate and hence increases variance. One "solution" is to have a bit more (sub) stratification of the outer stratum the purpose of which is to get sub-strata that are much more homogeneous as regards density over the sub strata. That will then improve precision. Even some careful post stratification can be justified here.

At the bottom of page 7, I did indeed think briefy about issues of detection function being quite similar or not for identified vs not idenified classes of schools. But later in the meeting it became clear that in principle those detection functions should be different (dependes on the process by which schools get to be identified or remain not identified to species), and thus the only line transect analysis that seems generally justified to me is on based on all the data (for a class of species). This means "pooled" data over id and not id to species. If not id'ed schools are few and small the

alternative approaches might not lead to much differences in practice.

Page 5. I think this is an accurate record of the meeting. At one time it was considered to estimate a total abundance (all data used) then estimate abundance of id'ed schools from just that data and get abundance of not id'ed by subtraction. But quickly this seemed not sensible to me. I do not know how you can best portray the evolution of thinking during the meeting. But the idea is, to me, that identified and not identified are not types of dolphin in th eETP. There is no intrinsic abundance of these "types". What there is is an abundance of dolphin (by species) to be estimated based on data wherein species of detected schools is sometimes not determined. Hence at a conceptual level it does not make sense to think of abundance in the ETP of schools of dolphin of unknown species.

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I'd send this to Paula, but I have no e-mail address for her.
Please FAX pages 4, 5, 6 of the doument to me. Thank you.

Ken

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Kenneth P. Burnham
Colorado Cooperative Fish and Wildlife
Research Unit (USGS-BRD)
210 Wagar Bldg.
Colorado State University
Fort Collins, Colorado 80523

Phone: 970-491-5396
FAX: 970-491-1413
e-mail: kenb@lamar.colostate.edu

http://www.cnr.colostate.edu/ (College home page)
http://www.colostate.edu/depts/coopunit/ (Unit home page)

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